

METHOD FOR PRODUCING AND SCREENING MASS-CODED
COMBINATORIAL LIBRARIES FOR DRUG DISCOVERY
AND TARGET VALIDATION

ABSTRACT OF THE DISCLOSURE

5 The present invention provides a method for
producing a mass-coded combinatorial library comprising
a set of compounds having the general formula $X(Y)_n$,
where X is a scaffold, each Y is, independently, a
peripheral moiety, and n is an integer greater than 1.
10 The method comprises selecting a peripheral moiety
precursor subset from a peripheral moiety precursor set.
The subset includes a sufficient number of peripheral
moiety precursors that at least about 50 distinct
combinations of n peripheral moieties derived from the
15 peripheral moiety precursors in the subset exist. The
subset of peripheral moiety precursors is selected so
that at least about 90% of all possible combinations of
n peripheral moieties derived from the subset have a
molecular mass sum which is distinct from the molecular
20 mass sums of all of the other combinations of n
peripheral moieties. The method further comprises
contacting the peripheral moiety precursor subset with a
scaffold precursor which has n reactive groups.
Methods of use of the mass-coded combinatorial library
25 produced by this method for identifying a ligand to a
particular biomolecule are also disclosed.